

PROGRAM FOR FASEB SUMMER RESEARCH CONFERENCES

TITLE: ANTIOXIDANT NUTRIENTS IN THE CELLULAR BIOLOGY OF HEALTH AND DISEASE

August 12-17, 1995

Day 1, Saturday/Evening Speaker

Barry Halliwell

Oxidative stress and antioxidants

Day 2, Sunday - A.M.*Recent advances in the chemistry and quantitation of oxidative damage and antioxidant function*Speakers

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| 1. Helmut Sies | Recent advances regarding antioxidant defense systems |
| 2. William Pryor | Cigarette smoke oxidants and damage to DNA |
| 3. Robert Floyd | Interception of oxidation reactions of DNA |
| 4. Catherine Rice-Evans | Total antioxidant potential |
| 5. Richard Cutler | Oxidative stress hypothesis of aging: role of antioxidants |

*Sunday - P.M.**Absorption and biokinetics of antioxidants*

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| 1. Maret Traber | Vitamin E bioavailability and biokinetics |
| 2. Mark Levine | Ascorbic acid cellular function,
pharmacokinetics, and human requirements |
| 3. Phyllis Bowen | Factors affecting carotenoid
bioavailability and "Biodistribution" |
| 4. Balz Frei | Novel antioxidant activities of vitamin
C |

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Day 3, Monday - A.M.

Role of antioxidants in signal transduction mechanisms and cell signaling

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| 1. Joseph Beckman | Tissue reactions of NO ₂ from endogenous and exogenous sources |
| 2. Angelo Azzi | Modulation of protein kinase C mapkinase and AP-1 by α -tocopherol |
| 3. Alice Pentland | Redox regulation of eicosanoid synthesis |
| 4. Giuseppe Poli | Cell modulation by antioxidants and lipid peroxidation products |
| 5. Roy Burdon | Reactive oxygen species in cell proliferation, differentiation and death |
| 6. Dennis J. Steuhr
(alternate) | Molecular biology and function of nitric oxide synthetase in the brain and macrophages |

Monday - P. M.

New developments in antioxidant reactivity, regeneration, and decay

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| 1. Etsuo Niki | Pro-oxidant and antioxidant effects of vitamin E in lipoproteins and membranes |
| 2. Graham Burton | Vitamin C/E interaction - in vivo and in vitro |
| 3. Al Tappel | Protection by multiple nutrient antioxidants against oxidative damage to tissues as measured by heme proteins |
| 4. William W. Wells | Thioltransferase and protein disulfide isomerase: functions in ascorbic acid redox cycles |
| 5. Alton Meister | Interaction between vitamin C and glutathione |

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Day 4, Tuesday - A.M.

Redox regulation of gene expression

1. Lester Packer Antioxidant action on oxidatively induced cell transcription factors, including nuclear Kappa Factor B (NfκB) and API
2. Patrick Baeuerle Eukaryotic transcription factors involved in redox control of gene expression
3. John Bertram Regulation of gap junction gene expression by carotenoids
4. Leonard Herzenberg Intracellular glutathione and plasma thioredoxin in regulation of signal transduction and progression of HIV disease
5. Tom Curran/
Steve Xanthoudakis Redox regulation of fos and jun DNA-binding activity in vitro

Tuesday, P.M.

Interaction between DNA, protein, carbohydrate and lipoproteins and membranes with reactive oxygen species and antioxidants

1. John Baynes Effect of antioxidants on glycation and glycooxidation of proteins in vitro and in vivo
2. Rodney Levine Oxidative stress and aging
3. Mark Shigenaga Analysis of oxidatively damaged genetic material
4. Andrew R. Collins Antioxidant protection and human health: biomarkers and model systems
5. Steven Tannenbaum Nitrous oxide-induced oxidative damage to cells and DNA

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Day 5, Wednesday, A.M.

Roles of antioxidants in health and disease I

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| 1. Anthony Diplock | Antioxidants and health: an overview |
| 2. Charles Hennekens | Antioxidants and cancer |
| 3. Rudolph Riemersma | Anti- and pro-oxidants: from atherosclerosis to coronary heart disease |
| 4. Allen Taylor | Antioxidants and eye health: cataract/retinal degeneration |
| 5. Simin Meydani | Antioxidants and the immune response |

Wednesday, P.M.

Roles of antioxidants in health and disease II

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| 1. Carroll Cross | Cigarette smoke interactions with antioxidants, proteins, and lipids |
| 2. David Janero | Mechanistic and targeting considerations regarding antioxidants as anti-ischemic tissue protectants |
| 3. Rajindar Sohal | Oxidative stress and aging |
| 4. Robert Brown | ALS and SOD-I deficiency |

Wednesday evening - Banquet

6:00 p.m.

Bruce Ames

7:30 p.m. - Oxidants, antioxidants, and the degenerative diseases of aging

Day 6, Thursday - A.M.

Selected Poster Discussions - 6-8 talks

20 min coffee break